6. Community Water Company of Green Valley

The Community Water Company of Green Valley provides water for the service area designated as Green Valley South, which includes a service area of approximately eight square miles. The service area is located in the Santa Cruz River Valley approximately 25 miles south of the City of Tucson. According to the ADWR Annual Water Withdrawal and Use Report, in the Community Water Company of Green Valley service area in 1998, a total of 2,243 af of groundwater were pumped and delivered.

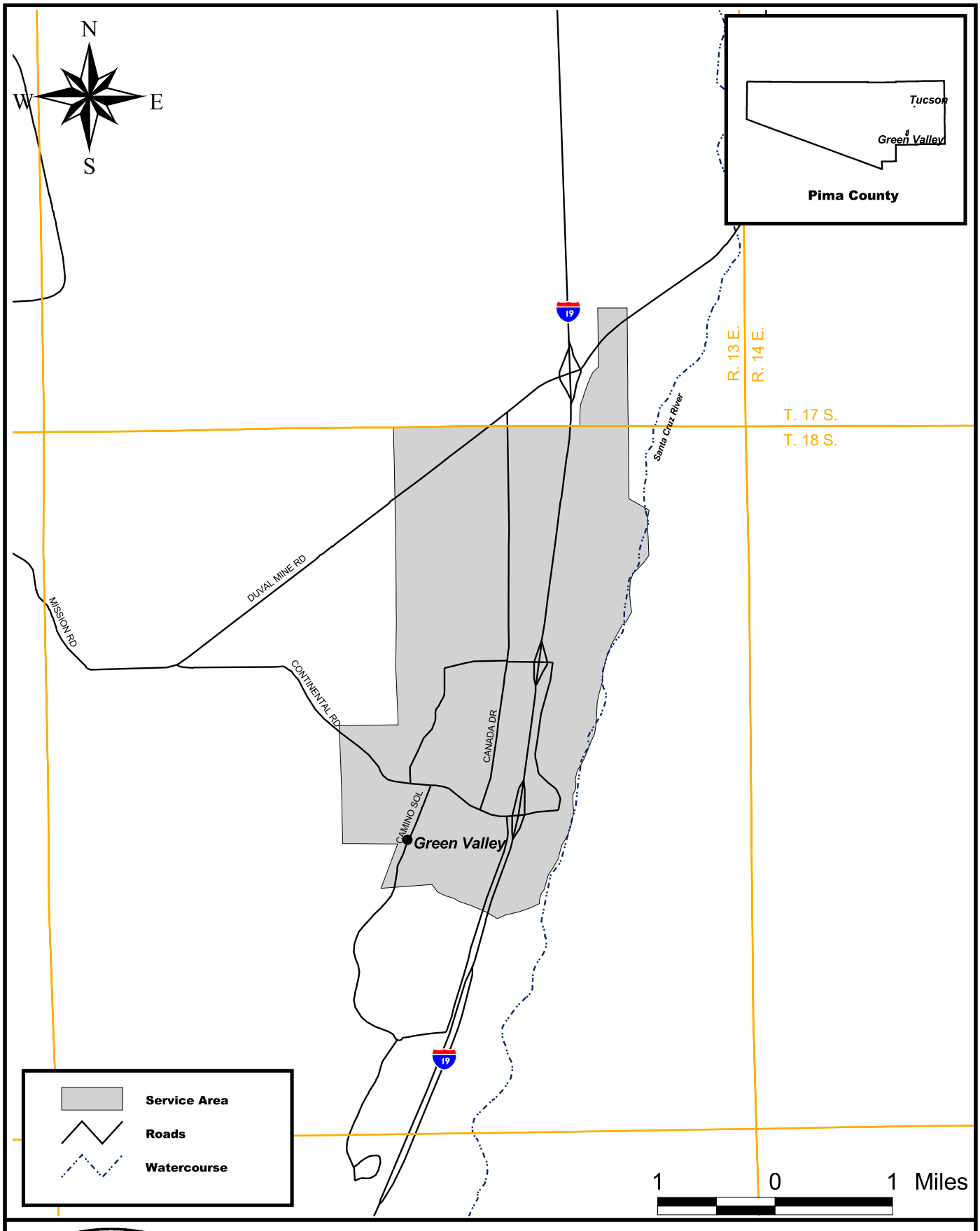
A. Plans to Take and Use CAP Water

The Community Water Company of Green Valley currently has a subcontract for 1,337 af of CAP water. This total includes 1,100 af allocated as part of the 1983 ROD and 237 af that were transferred from the New Pueblo Water Company. Green Valley is not currently taking and using its allocation. Under the Settlement Alternative, the Community Water Company of Green Valley would receive an additional 1,512 af of CAP water. That CAP water would be delivered for a 50-year contract period (i.e., from 2001-2051). The CAP water would be used to supplement both current and projected water supply demands over the next 50 years and would help reduce the continuing dependence on pumping groundwater from an overdrafted groundwater system. Table L-M&I-33 outlines the proposed allocations by alternative.

Table L-M&I-33
CAP Allocation Draft EIS
Community Water Company of Green Valley – Proposed CAP Allocation

Alternative	Allocation (in afa)	Priority
Settlement Alternative	1,512	M&I
No Action	0	-
Non-Settlement Alternative 1	1,512	M&I
Non-Settlement Alternative 2	0	-
Non-Settlement Alternative 3A	0	-
Non-Settlement Alternative 3B	1,664	NIA
Existing CAP Allocation	1,337	-

Figure L-M&I-17 shows the service area for the Community Water Company of Green Valley, which covers approximately 5,113 acres. The Community of Green Valley is located approximately nine miles from the CAP terminus, and currently has no connection to the CAP system. Green Valley is working with other entities to extend the CAP system down to the Green Valley area, but do not currently have the funding in place to do so. Agricultural users in the area have also expressed an interest in extending the CAP system into the area. The Community of Green Valley anticipates using the CAP allocation for direct or in-lieu recharge and would continue to pump groundwater to meet its municipal demands. Direct recharge could occur at the Pima Mine Road recharge facility (Forrest 2000).



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CAP Allocation Draft EIS
General Location Map
Community Water Company of Green Valley

June 2000

Figure #L-M&I-17

B. Population Projection

The population in 1985 for the Community Water Company of Green Valley service area was 1,637. The estimated 2001 population level is 14,290 and the estimated 2051 population level is 28,275.

C. Water Demand and Supply Quantities

As previously shown in Appendix C–M&I Sector Water Uses, it is estimated that water demand in the service area of the Community Water Company of Green Valley would increase from 2,244 af in year 2001 to 4,439 af in year 2051. The projected water uses both by water source and alternatives are provided below in Table L-M&I-34. Based on these anticipated water demands, the CAP water which would be allocated under the Settlement Alternative, would provide 67 percent and 34 percent of the current estimated water supply required for the Community Water Company of Green Valley service area for the years 2001 and 2051, respectively.

Table L-M&I-34
CAP Allocation Draft EIS
Community Water Company of Green Valley– Projected Water Use

Alternative	Annual CAP Deliveries		Groundwater		Effluent		CAGRD (Groundwater)		Total Demand	
	2001	2051	2001	2051	2001	2051	2001	2051	2001	2051
Settlement Alternative	0	2,858	2,244	0	0	0	0	1,581	2,244	4,439
No Action	0	1,337	1,337	0	0	0	907	3,102	2,244	4,439
Non-Settlement Alternative 1	0	2,858	2,244	0	0	0	0	1,581	2,244	4,439
Non-Settlement Alternative 2	0	1,337	1,337	0	0	0	907	3,102	2,244	4,439
Non-Settlement Alternative 3A	0	1,337	1,337	0	0	0	907	3,102	2,244	4,439
Non-Settlement Alternative 3B	0	2,858	2,244	0	0	0	0	1,581	2,244	4,439
Note: A more detailed breakdown of supplies may be found in Appendix C.										

It is estimated that the demand for water at the end of the CAP contract period would be approximately 4,439 af. For all alternatives, there is estimated to be no unmet demand. In the Settlement Alternative, Non-Settlement Alternative 1 and 3B, 1,512 afa of demand is met by the additional CAP allocation. Alternatively, this 1,512 afa of demand is met by CAGRD membership under the No Action Alternative and Non-Settlement Alternative 2 and 3A.

D. Environmental Effects

The following sections include a general description of existing conditions relating to land use, water resources and socioeconomics for each entity. The following summaries also include a description of the existing conditions and brief description of the impacts to biological and cultural resources that would result from the construction of CAP delivery facilities and conversion of desert and agricultural lands to urban uses.

1. Land Use

Land use data for the Community Water Company of Green Valley were obtained based upon the review of 1998 aerial photographs and the result of the field surveys and habitat mapping completed as part of the biological analysis in this EIS. Table L-M&I-35 provides the projected acres of land within the Community Water Company of Green Valley service area which are agriculture, desert or urban and the number of acres expected to change from the existing category for the years 2001 and 2051.

TableL-M&I-35
CAP Allocation Draft EIS Community Water Company of Green Valley– Projected Land Use Changes Within the Service Area
(in acres)

Alternative	Year	Agriculture	Agriculture Urbanized	Desert	Desert Urbanized	Urban	Changes to Urban Acreage
Settlement Alternative	2001	0	--	1,130	--	3,983	--
	2051	0	0	0	1,130	5,113	1,130
No Action	2001	0	--	1,130	--	3,983	--
	2051	0	0	0	1,130	5,113	1,130
Non-Settlement Alternative 1	2001	0	--	1,130	--	3,983	--
	2051	0	0	0	1,130	5,113	1,130
Non-Settlement Alternative 2	2001	0	--	1,130	--	3,983	--
	2051	0	0	0	1,130	5,113	1,130
Non-Settlement Alternative 3A	2001	0	--	1,130	--	3,983	--
	2051	0	0	0	1,130	5,113	1,130
Non-Settlement Alternative 3B	2001	0	--	1,130	--	3,983	--
	2051	0	0	0	1,130	5,113	1,130

2. Archaeological Resources

A few block surveys have occurred within the northern half of the service area; the remainder of the service area was sparsely surveyed, primarily by linear projects along

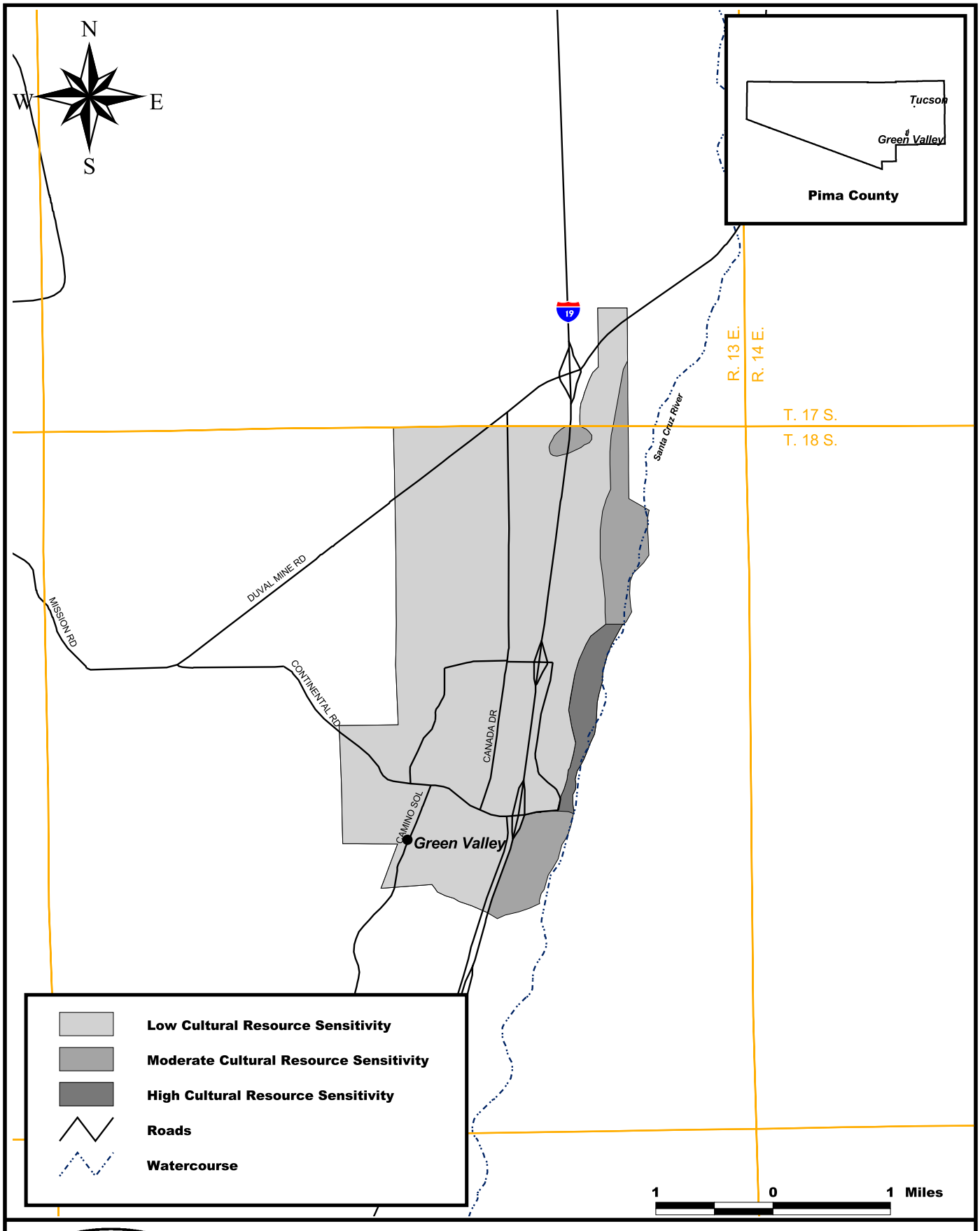
road, railroad, and pipeline rights-of-way. Cultural resources in high to moderate densities occur along the banks of the Santa Cruz River near the eastern boundary of the service area. Site types documented in this area include sherd and lithic scatters, and rock piles. Known historic sites include wells, roads, and early settlements such as Continental (AZ EE:1:82(ASM)), founded in 1914 by the Continental Rubber Company. No other sites are known in the vicinity, although historic sites associated with early commerce, farming, and/or mining are likely throughout the service area. Additionally, because of the nature of the depositional environment, the potential for buried sites is high.

Cultural resource sensitivity areas in this entity are shown in Figure L-M&I-18. Based on the limited data used to generate the cultural sensitivity designations, the potential for cultural resource impacts in the Community Water Company of Green Valley service area is low to moderate. Mitigation of cultural resource impacts due to urban expansion would be determined by local jurisdictions and development of applicable permit requirements (such as the CWA Section 404 permit). Impacts on cultural resources due to future land use changes would be identical for each of the five alternatives. Mitigation for such impacts would be dependent on the requirements of the local jurisdiction. The Community Water Company of Green Valley's plans for taking delivery of CAP water is not complete. If construction of a pipeline to the service area is proposed, impacts to cultural resources are possible. If all existing facilities are used, such as the Pima Mine Road recharge facility, then no additional construction-related impacts to cultural resources would occur. Reclamation would review the final plans for taking CAP water, and carry out additional cultural resource compliance as appropriate, prior to water deliveries.

3. Biological Resources

Existing Habitats

Little natural habitat remains within the Community Water Company of Green Valley service area (elevation between 2,850 and 3,050 feet). Most of the area has been developed for agricultural and urban use. The remaining native vegetation is mostly disclimax grassland with snakeweed, turpentine-bush, and velvet mesquite. Other common perennials include chainfruit cholla, staghorn cholla, netleaf hackberry, brittlebush, foothills paloverde, ocotillo, whitethorn acacia, fluffgrass, brown-spined prickly-pear, paperflower, and bush muhly. Trees with a diameter breast height (dbh) greater than siz inches were rather closely-spaced and saguaros were not present. The habitat zones located in the service area are shown on Figure L-M&I-19. Table L-M&I-36 provides the habitat acreages in the service area for the habitat zones described above.



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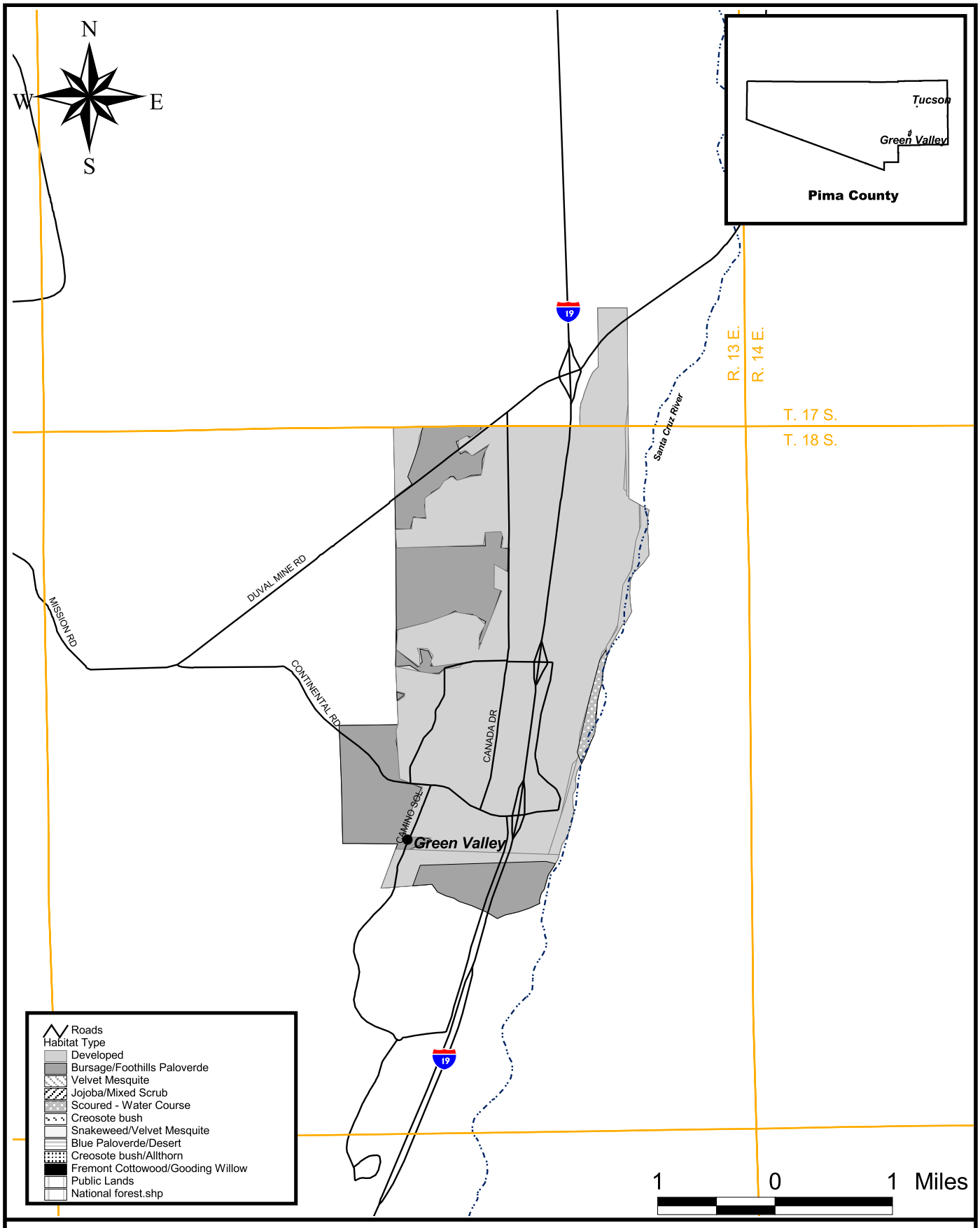
CAP Allocation Draft EIS
Cultural Resources
Community Water Company of Green Valley

June 2000

Figure #L-M&I-18



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CAP Allocation Draft EIS
Habitat Zones
Community Water Company of Green Valley

June 2000

Figure No. L-M&I-19

Table L-M&I-36 CAP Allocation Draft EIS Community Water Company of Green Valley– Habitat Acreages	
Vegetation Name	**Acres**
Developed	3,983
Bursage / Foothills Paloverde	1,090
Velvet Mesquite	0
Jojoba / Mixed Scrub	0
Creosote-Bush	0
Blue Paloverde / Desert	0
Creekbeds	39
Total	**5,113**

Impacts to Biological Resources

Under the No Action Alternative, urban growth within the Community Water Company of Green Valley service area would result in loss of an estimated 1,131 acres of Bursage / Foothills Paloverde Association and associated wildlife resources. Under the action alternatives, there is no difference in impacts from the No Action baseline. The Community Water Company of Green Valley plans for taking delivery of CAP water are uncertain at this time. Based on final plans, Reclamation would carry out additional environmental review of specific facilities. In addition to the above concerns, there is a specific issue regarding water deliveries to the Community of Green Valley with respect to the endangered Gila topminnow. On June 11, 1999, USFWS submitted a draft Biological Opinion (BO) to Reclamation, which concluded that the CAP water deliveries to Pima County users would jeopardize the continue existence of the Gila topminnow. The BO stated that jeopardy could be avoided by the construction of two fish barriers in the Santa Cruz River to prevent upstream movement of CAP-source non-native aquatic species. The BO further states that any proposed CAP water deliveries upstream (south) of the proposed fish barriers would require additional consultation under the ESA. At this time, the preferred location for the fish barriers are downstream of the Community of Green Valley Water Company service area, so it appears specific consultation on this potential impact would be requested, based on the Community of Green Valley Water Company final plans for taking CAP water.

Potential T&E Species and Acres of Potential T&E Species Habitat

Because the allocation of CAP water has no effect on urban growth, there would be no effect on T&E species from the CAP allocation as it pertains to urban growth. The appropriate municipal or local governmental jurisdiction would be responsible for complying with the relevant provisions of the ESA as it permits and approves future urban growth. The Community Water Company of Green Valley service area is located within Pima County for which there are 16 T&E species listed by USFWS. However, potential habitat exists only for cactus ferruginous pygmy-owl and the Pima pineapple cactus. There is no designated critical habitat for the Pima pineapple cactus and approximately

1,091 acres of potential suitable habitat were identified. Approximately 1,091 acres of potentially suitable habitat for the cactus ferruginous pygmy-owl were also identified within the service area.

4. Water Resources

Demands in the Community Water Company of Green Valley have historically been met by pumping groundwater from the underlying sedimentary rocks. This reliance on groundwater has resulted in declining groundwater levels over time, and there has been some subsidence associated with these lower groundwater levels. The concentration of TDS in the underlying groundwater is generally from about 500 to 1,000 ppm.

Estimated groundwater level impacts are summarized in Table L-M&I-37, which shows the estimated groundwater level change for the period from 2001-2051 as well as the groundwater level impacts or the difference between the change in groundwater levels for each alternative relative to the change for the No Action Alternative.

Under the No Action Alternative, groundwater levels would decline by more than 110 feet from 2001 to 2051. This decline would primarily result from increased demands over time which would be met through increased local groundwater pumping. CAP water available to the Community Water Company of Green Valley would be recharged at other locations, which would limit the benefit of that recharge on the local groundwater levels. Substantial changes in groundwater quality would not be anticipated. However, there would be the potential for subsidence due to the lower groundwater levels.

Groundwater levels would also decline for all of the action alternatives. However, the declines would be smaller for all of the action alternatives than for the No Action Alternative. The smaller groundwater level declines are primarily a reflection of changes in groundwater underflows that result from higher groundwater levels to the north of the Community Water Company of Green Valley due to greater amounts of direct recharge by the San Xavier District of the Tohono O'odham Nation and in the Pima Mine Road facilities.

The estimated groundwater levels for all of the action alternatives indicate that a groundwater level depression would develop in the vicinity of the Community Water Company of Green Valley. This could result in the development of an adverse salt balance for this area. Also, the groundwater level declines from 2001 to 2051 for all alternatives could result in subsidence in this area.

Table L-M&I-37 CAP Allocation Draft EIS Community Water Company of Green Valley –Groundwater Data Table		
Alternative	**Green Valley Central***	
	Estimated Groundwater Level Change from 2001-2051 (in feet)	**Groundwater Level Impact** (in feet)**
No Action	-111	--
Settlement Alternative	-85	+25
Non-Settlement Alternative 1	-107	+3
Non-Settlement Alternative 2	-90	21
Non-Settlement Alternative 3A	-90	21
Non-Settlement Alternative 3B	-87	+24

*****Values correspond to the Green Valley Central sub-area, as discussed in Appendix I.
** Computed by subtracting the estimated groundwater decline from 2001 to 2051 for the No Action Alternative from the estimated change in groundwater level for the same period for the alternative under consideration. The estimated impact is considered to be greater than the estimated decline in groundwater levels.

5. Socioeconomic

The same population growth is supported under all alternatives, including the No Action Alternative. However, the cost of providing water may vary by alternative. Costs were estimated, on a per af basis, of providing the proposed allocations and, in their absence, alternative water supplies. The alternative water supplies include joining the CAGRD and, if needed, treating and reusing effluent. The difference in cost for this small increment of the Community Water Company of Green Valley's total water supply is considered insignificant. It should be noted that the increment of demand met by the proposed CAP allocation is approximately 34.3 percent of the total year 2051 demand for Community Water Company of Green Valley.

Table L-M&I-38
CAP Allocation Draft EIS
Community Water Company of Green Valley–Cost of Potable Water for Additional Allocation Increment

Alternative	Cost of Water (per af)	Water Source
Settlement Alternative	154[a]	CAP Allocation
No Action	229 – 236[b]	CAGRD
Non-Settlement Alternative 1	154[a]	CAP Allocation
Non-Settlement Alternative 2	229 – 236[b]	CAGRD
Non-Settlement Alternative 3A	229 – 236[b]	CAGRD
Non-Settlement Alternative 3B	154[a]	CAP Allocation

Notes:
a. Estimated average unit cost in year 2000 dollars.
b. Estimated range of unit costs in year 2000 dollars. Range is due to estimated change in groundwater pumping lifts during study period and does not include wellhead treatment costs.